Previous references.

1908 ? 11

(Gen)

File No. 116

Serial Nos. 1–21.

Later references.

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. 1–21.

Part B. for march 1911

SUBJECT.

Invention for improvements in the treatment of ~~ores~~ refractory metalliferous ores" by the Clancy Metals' Process Co of the City of Newyork, U.S.A

1. From Messrs Remfry and Son Calcutta No. 3 of 12 9/10. Forward an application from the Clancy Metals Process Co for leave to file a specification in respect of the above invention.

2. To ——do—— No. G. 1806 of 24.5.10.

(Result) With reference to the above request that the corresponding application stated to have been made to the Govt of India in respect of the same invention may be kindly intimated.

G. R. S. 58

3.

To the Supdt of Stamps. G.1807 & 11 $\frac{2}{10}$
Forwards a deed of assignment and
a Power of Attorney for being stamped
each with a stamp of the value of Re.1/-
and returned.

4. To the State Geologist in Mysore
No. G. 1808 & U.S.10. Forwards
for opinion the spn^n received with sl. 2

5. The Office in chage, State Huzur Treasury.
No. G. 1809 & U.S.10. Forwards for
Credit Rs.10/- received with sl. 1

6. From ——— No. 82 & 22 $\frac{2}{10}$
Acknowledges receipt of Rs.10/-
sent with the above.

7. From the Supdt of Stamps. No. 56 & 23 $\frac{2}{10}$.
Returns duly stamped the Deed of
Assignment and the power of attorney
sent with sl. 3.

8. To ——— G. 2346 & 3 $\frac{10}{10}$
Acknowledges receipt of the
Deed of Assignment and the Power of Attorney
received with the above.

9. From the State Geologist. No. 648 & 26 $\frac{2}{10}$
Forwards his opinion on the specification
and states that the leave applied for may be granted.

10. From Messrs. Remfry and Son. Letter & 5 $\frac{12}{10}$
Forward a certified copy of the order
of the Govt of India granting leave
to file the specification.

11. To the Clancy Metals Process Co. Ltd New York. G.4276 & 25 $\frac{1}{11}$
Authorizes them to file a specification
of the invention.

12

G.R.S. 11] 1910-11.

GENERAL AND REVENUE SECRETARIAT

(Gen : Mis :)

NOTES.

File. No. 116 of 10-11

FILE HEADING.

Application from the Clancy Metals Process Co.ᵗᵈ of the City of New York, U. S. A., in respect of their invention for "Improvements in the treatment of Precious Metaliferous Ores."

From

Messrs. Rempry & Son, Solicitors & Patent Agents, Calcutta.

No. 3 Dated 12. 9. 10 Received 15. 9. 10.

Diary No. 272	Encls.	Spare Copies.	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forward the application from the Clancy Metals Process Co. for leave to file a specification in respect of their above mentioned invention.

NOTES AND ORDERS.

With the above application are also received a Deed of Assignment and a Power-of-Attorney in favr of the Co. and of Messrs Rempry & Son respectively, and also Rs 12/- towards the application and Stamp fees.

2. The usual Drafts are subd. P. T. O.

GA 15.9.10

NOTES - First sheet.

GPE—30,000 - 20-3-06.

G. R. S. 12]
General and Revenue Secretariat.

Gen File No. 116 of 1910-1

Serial No.

3. In the concluding patin of the application, Messrs Rempry & Son state that a corresponding Indian Application was filed on the 5th Sept: 1910.

4. Subd: with a draft ~~letter for issuance~~, for approval & other orders.

GA 17.9.10

Jaone for 19.9.10

2. To messrs. [illegible] for V.S. Solicitors Calcutta.

No. G 1806. dt. 21.9.10.

[illegible]

[illegible]

[illegible]

Note—Contn. sheet.

GPB—55,000—27-4-09

G. R. S. 12]
General and Revenue Secretariat.

File No. 1116 of 1910-11

1075

Serial No.

1. From the Superintendent of Stamps
No. 86 dated 21st September 1910
transmitting, stamps to the value of Rs. 1-8-0
used on a Power-of-Attorney executed by
[illegible] and requesting
return of the same.

2. From the Officiating Superintendent of Stamps
No. 1,220 dated 21-9-10
forwarding the application
dated the 19th September 1910 from Messrs. Bonnerjee & Sons, Solicitors
[illegible]
for refund of Rs. 10/- being the value of
one stamp of the Court Fees Act
No. 802 dated 22nd September 1910
[illegible] the receipt of the same is returned
herewith SC 5.

7. From the Superintendent of Stamps
No. 86 dated 24th September 1910
transmitting, stamps to the value of Rs. 1-8-0
used on a Power-of-Attorney executed by [illegible] and requesting
return of the same.

Returned
24.9.10 27/9. 5. Done
2879/10

To the Superintendent of Stamps.
No. C. 2546. dated 3.10.10.
Voucher for receipt
of the stamps duly returned.

Note—Contn. sheet.

GPB—55,000—27-4-09

G.R.S. 12]

General and Revenue Secretariat.

le No. of 190

Serial No.	
	[illegible] Power of Attorney for [illegible]
9	From the State Geologist in Mysore. No 048 dated 26th September 1910 - States that the process involved in the specification and the Claims put forward of this nature is of opinion that the leave applied for may be granted -
	~~Submitted for consideration~~
6	May the production of the authenticated copy of the Govt of India Order called for in Pl 2 above be awaited ?
	Subd VS. 6-10-10 yes 6/10/10
10	From Rumpf Esqr Letter dt. 7-12-10. Forward a certified copy of the order of the Govt of India granting leave to file the Specification.
8	Draft order & covering letter subd for sign. VS. 41 Seen. 19/12/11

1548/2558

Note—Contn. sheet.

GPB—55,000—27-4-09

G. R. S. 12]
General and Revenue Secretariat.

Gen File No. 116 of 1910–11

Serial No.	
11	To the Clancy Metals Process Co, New York. U.S. No. Cs 4276 dated 25th January 1911. Authorizes them to file a specification of the invention.
12	To Messrs Remfry & Son, Calcutta Nos 4777 & 2 Forwards the above for communication to the applicants.
13	From Messrs Remfry & Son. Letter of 10.2.1911 filing 4 copies of the specification and enclosing remittance of Rs 30. — 10 Subd. with the usual 4 copies. The certificate at the bottom of the order (xi 11) requires signature. 13 / 16.2.11 Jun 16/2 11 Journal 17.2.11
14	To the Asstt Comptr., State Hazur Treasury. No. Cs 4938 dy 24 Forwards Rs 30/- rec'd with the above & requests acknowledgment.
15	To the Compiler, Mysore Gazette. No. Cs 4939 dy 24.2.11. Notifies the filing of the specification.
16	To Messrs Remfry & Son, Calcutta. No. Cs 4940 dy 24.2.11. Forwards copy of the above & returns the original application 11 with the certificate at the foot thereof duly filled in.
17	To the Supdt, Govt Museum, State Geologist & Chief Engineer No. Cs 4941–3 dy 24.2.11. Forwards for record copy of the specification.

NOTE—Contn. sheet.

GPB—50,000—12-8-10

G. R. S. 12]
General and Revenue Secretariat.

File No. 116 of 1910-11

6

Serial No.	
18	From the Ass^{t} Comp^{r} in charge Stt. Ag. No. 346 of 25-2-11 Acknowledge receipt of the sum of Rs 30 remitted with K 14.
19	From the Supdt of Govt museum No. 219 of 24-2-1911 Acknowledge receipt of the specimen. The other 2 packets will be awaited. 8/3/11 13 Ps 8/3/11
20.	From the State Geologist No ~~350~~ 175 of 8-3-11 } A.
21.	" " Chief Engr No 2016 of 13-3-11 } receipt of the specimen forwarded with ref. [illegible]

Note—Contn. sheet.

BPG—55,000—27-4-09

D. 1292
5

gm. 116-10-1

To

MYSORE.

THE SECRETARY TO THE GOVERNMENT OF ~~INDIA,~~
Genl & Rev. Depts.
~~DEPARTMENT OF REVENUE AND AGRICULTURE (PATENTS)~~.
Bangalore, Mysore.

From

REMFRY & SON,

Solicitors and Patent Agents,

CALCUTTA.

Dated Calcutta, 12th Sept.10.

Sir,

We have the honour to forward herewith an Application of CLANCY METALS PROCESS COMPANY, a corporation organized under the Laws of the State of New York, of No. 170 Broadway, in the City of New York, County and State of New York, United States of America, engaged in the business of Treating Ores, for leave to file a Specification under Part I of the Mysore Inventions and Designs Regulations, 1894, in respect of an Invention for "IMPROVEMENTS IN THE TREATMENT OF PRECIOUS METALLIFEROUS ORES", and solicit the favour of your submitting the same for the Orders of HisHighness the Dewan of Mysore.

The Power of Attorney under which we are acting and an Assignment from the Inventor are also sent. The prescribed fee of Rs10/- and 2/- for stamping such Power and Assignment are sent by P.O.O. to day.

A corresponding Indian Application was filed on the 5th instant.

We have the honour to be,

Sir,

Your very obedient servants,

REMFRY & SON.

per

Instructions to be typed by

[redacted]

Record of Order No. 12/-41

Name of Firm Remfry & Son.

Application Fee and Stamping P/A and cost of CLANCY METALS PROCESS CO. See letter of date.

REMFRY & SON.

[redacted]

2

&-P&T

RY

15/-

S P E C I F I C A T I O N

----------oOo----------

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN that We, CLANCY METALS PROCESS COMPANY, a corporation organized under the Laws of the State of New York and having a place of business and post-office address at No. 170 Broadway, in the City of New York, County and State of New York, United States of America, engaged in the business of Treating Ores, are in possession of an Invention for Improvement in the Treatment of Precious Metalliferous Ores, and we, the said CLANCY METALS PROCESS COMPANY, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:-

PATENT AGENTS
REMFRY & SON.
CALCUTTA.

We have discovered that a cyanogen-bearing compound which is not a solvent of the precious metals can be made a solvent of the same by the addition of an amidine or amide compound in the presence of an electric current. As a result of this discovery we are able to use cyanogen compounds heretofore not available in the cyanide process and also we are able to regenerate spent cyanide solutions and we are also able to use in the cyanide process oxydizing agents without loss of available cyanide.

In the practice of our invention we may use the crude cyanamide of commerce, its isomerides and polymerides, as a solvent for the precious metals and other metals contained in ores; or we may use a soluble cyanamide in conjunction with the cyanide process in the treatment of ores, and as a means of regenerating cyanide solution or non-available cyanogen-bearing solutions.

When a soluble amidine or amide compound (such for example, as dicyandiamidine, urea, guanidine, guanidylguanidine, guanidine carbonate, formamide, oxamide, cyanamide, dicyanamide, or the various polymeric and isomeric modifications of the last-mentioned compounds) is added to a cyanogen-bearing solution and the mixture electrolyzed in contact with ore, the consumption of cyanide is very strikingly reduced; and also solutions containing cyanates, before, after or during the treatment of ore (together with ferrocyanides, ferricyanides, thiocyanates, or other such non-available cyanogen compounds formed in the treatment of ores) may be converted into compounds which readily dissolve the precious metals contained in ores;

and most remarkable is the regeneration of cyanide from cyanates, such as alkaline cyanates, isocyanates and the various isomeric and polymeric compounds, or the oxygen derivatives of cyanogen, their isomerides and polymerides.

We have described the addition of a soluble amidine or amide compound, which may also include any of the above-mentioned compounds; but we use preferably, when working our process, a soluble cyanamide (such, for example, as calcium cyanamide, as it is at present the cheapest source of an amidine or amide compound). A solution of calcium cyanamide, or its isomerides and polymerides, when subjected to electrolysis, is, we have discovered, capable of dissolving the precious metals, and other metals, without any other admixture of cyanogen-bearing material. From cyanamide all the amide or amidogen compounds we have mentioned are very easily prepared. For instance: by the action of sulphuric acid or hydrochloric acid upon cyanamide, water is absorbed and it becomes urea. H_2S converts it into thio-urea. NH_3 converts it into guanidine; while substituted guanidines are produced upon introducing the hydrochlorides or primary amines; and numerous other amide compounds may be prepared by simple inexpensive chemical treatment of cyanamide. It will, therefore, be obvious that our claim for a soluble amidine or amide compound includes all the polymeric and isomeric modifications and transpositions of soluble cyanamides.

To show the action of these amide compounds, we may take, for example, urea (carbamide) and add this to a

solution of a cyanate (such, for example, as potassium cyanate) and electrolyze this mixture between inert electrodes. After a few minutes the said mixture will be transformed into one which will dissolve the precious metal in alkaline solution. It is well known that cyanates have absolutely no dissolving effect upon the precious metals, and that the formation of cyanate in the cyanide solution represents the chief source of loss of cyanide in the cyanide process, since when cyanates are allowed to stand for any considerable time, or are retained in solution, they are converted into ammonia, and potassium carbonates and are transposed by the lime used in the cyanide process into insoluble carbonates - or by the action of sulphuric acid in the ore into sulphates - so that the original cyanide finds itself eventually in the residue dumps in the form of calcium sulphates or insoluble carbonates. Any oxidation means, when used in the cyanide solution to hasten the dissolution of the precious metals, increases the cyanide consumption, due to the formation of cyanate, which is often very great; and up to the present, no means for regeneration or recovery of cyanide from cyanate in aqueous solutions has ever been discovered, so far as we are aware; but by our discovery that a soluble amidine or amide compound (such, for example, as calcium cyanamide) added to the cyanide-bearing solution, in conjunction with the electrolysis of said solution, opens up a cheap way whereby oxidation means other than atmospheric oxygen (such as treatment of cyanide-bearing solutions with oxidizing agents and

soluble halogen compounds, or other oxidation means) may be successfully employed for readily dissolving and extracting precious metals from refractory ores - such as tellurides, arsenides, sulphides and other ores containing reducing agents. In general, this process may be successfully applied to either rebellious or non-rebellious ores without preliminary roasting, even though such ores contain the refractory compounds mentioned.

The apparatus for carrying our process into effect is simply the ordinary agitating tank furnished with electrodes spaced about from 1-1/2 inches to 2 inches apart. These electrodes may be made of carbon, or one of iron and another of carbon; that is to say, the positive electrode undergoes no deterioration, as only nascent hydrogen is produced at the said electrode; therefore iron answers the purpose. The negative electrode or anode is made preferably of a hard graphite or other such inert material.

The circulation caused by the agitation keeps the whole mixture constantly circulating between the said electrodes. This circulation is maintained for a period of from eight to twelve hours to obtain the desired result, which is described in the examples. The said agitating tank with the electrodes is equivalent to the electrolyzer described in the examples.

Different ores require variations in the composition of the solution and in the current. For example, in treating ores containing tellurides or arsenides, we may add a soluble halogen compound to the

cyanamide treatment solution, or to the cyanogen-bearing solution, or to the non-available cyanogen-bearing solution, in the manner shown in the examples following.

The function of a halogen compound - such, for example, as potassium iodide, when added to the cyanogen-bearing solution - is, that during electrolysis the iodine liberated at the anode acts as an oxydizing agent. It is clear, therefore, that the presence of a halogen compound, such, for example, as potassium iodide, in said solutions, insures complete absorption of any nascent oxygen which might escape without doing oxidation work. The halogens also form addition compounds with cyanamide, these addition compounds in themselves acting as oxidizing agents.

It is therefore obvious, that in any of the examples given, the function of the halogen is analogous.

In the following examples we use a solution of a soluble cyanamide alone, or in conjunction with the cyanide solution, or in conjunction with a non-available cyanogen-bearing solution. By non-available cyanogen-bearing solution we mean one that contains cyanogen in a different combination from that in which it exists in what is known as simple alkaline cyanides. For example, a solution after being used in the treatment of ore on testing shows no available cyanide. The cyanide in such solution is said to have been consumed, and is unfit for further treatment of ore until re-strengthened by the addition of more cyanide. It is clear, therefore, that our process aims at, besides its other features mentioned,

the substitution of a cheap amidine or amide compound (such, for example, as calcium cyanamide) in the place of cyanide or together with only a small proportion of cyanide.

Example 1: 2000 lbs. of pulverized ore is suspended in a solution of 4 lbs. calcium cyanamide, 2 lbs. caustic soda or lime (with or without the addition of 1 lb. potassium iodide) in 2000 lbs. of water. The whole mixture, being in the proportion of two parts of said solution to one part of ore, is contained in an agitation tank. This mixture of ore and solution is continuously circulated for a period of twelve hours through the electrolyzer having a current density of about 50 amperes per square foot of electrode surface. About from 90 to 120 amperes are used per ton of ore.

Example 2: 2000 lbs. of pulverized ore is suspended in a solution of 1 lb. of potassium cyanide, 2 lbs. calcium cyanamide, 2 lbs. caustic soda, or lime (with or without the addition of 1 lb. potassium iodide) in 2000 lbs. of water. The whole mixture, being in the proportion of two parts of said solution to one part of ore, is contained in an agitation tank. This mixture of ore and solution is continuously circulated for a period of twelve hours through the electrolyzer having a current density of about 50 amperes per square foot of electrode surface. About 90 to 120 amperes are used per ton of ore.

Example 3: 2000 lbs. of pulverized ore is sus-

pended in a solution of 2 lbs. potassium ferrocyanide, 2 lbs. calcium cyanamide, 2 lbs. caustic soda, or lime (with or without the addition of 1 lb. potassium iodide) in 2000 lbs. of water. The whole mixture, being in the proportion of two parts of said solution to one part of ore, is contained in an agitation tank. This mixture of ore and sclution is continuously circulated for a period of twelve hours through the electrolyzer having a current density of about 50 amperes per square foot of electrode surface. About 90 to 120 amperes are used per ton of ore.

Example 4: 2000 lbs. of pulverized ore is suspended in a solution of 2 lbs. potassium thiocyanate, 2 lbs. calcium cyanamide, 5 lbs. pulverized calcium carbonate (with or without the addition of 1 lb. potassium iodide) in 2000 lbs. of water. The whole mixture, being in the proportion of two parts of said solution to one part of ore, is contained in an agitation tank. This mixture of ore and solution is continuously circulated for a period of twelve hours through the electrolyzer having a current density of about 50 amperes per square foot of electrode surface. About from 90 to 120 amperes are used per ton of ore.

Example 5: 2000 lbs. of pulverized ore is suspended in a solution of 1 lb. potassium cyanide, 2 lbs. calcium cyanamide, 10 lbs. pulverized calcium carbonate (with or without the addition of 1 lb. potassium iodide) in 2000 lbs. of water. The whole mixture, being in the

proportion of two parts of said solution to one part of ore, is contained in an agitation tank. This mixture of ore and solution is continuously circulated for a period of twelve hours through the electrolyzer having a current density of about 50 amperes per square foot of electrode surface. About from 90 to 120 amperes are used per ton of ore.

Example 6: 2000 lbs. of pulverized ore is suspended in a solution of 1 lb. potassium cyanide, 1 lb. potassium thiocyanate, 1 lb. calcium cyanamide, 10 lbs. calcium carbonate (with or without the addition of 1 lb. potassium bromide) in 2000 lbs. of water. The whole mixture, being in the proportion of two parts of said solution to one part of ore, is contained in an agitation tank. This mixture of ore and solution is continuously circulated for a period of twelve hours through the electrolyzer having a current density of about 50 amperes per square foot of electrode surface. About from 90 to 120 amperes are used per ton of ore.

In this specification we have described our meaning of a non-available cyanogen-bearing solution, and we now give the following example as being a typical one for the regeneration of cyanide from spent cyanide solutions - that is, those solutions in which the cyanogen is non-available, such, for example, as cyanates, ferrocyanides, ferricyanides, sulphocyanides, etc.

Example: Take 2000 lbs. of solution which had an original strength of 2 lbs. cyanide per ton and which

has already been used for the treatment of ore, on testing shows only 1/4 lb. of cyanide per ton of solution. Add 4 lbs. of calcium cyanamide and electrolyze this mixture between inert electrodes for a period of two hours at a current density of 50 amperes per square foot of electrode surface. On again testing the said solution it will be found that the available cyanide is increased, or rather gives a titration equal to 2 lbs. of available cyanide. This solution is then ready for treating a fresh batch of ore. From the above it will be seen that ores which are readily leachable may be treated by percolation with the above described electrolyzed solution.

It will be seen that by our invention we generate solvents and continuously dissolve the precious metals which transform them into compounds soluble in the above solutions. The function of the electric current in conjunction with a soluble amidine or amide compound (such, for example, as calcium cyanamide in the cyanogen-bearing solution) is one that is both reducing and oxidizing. It is clear that we make use of the anodic and cathodic reactions which occur at both electrodes in our solutions.

From the above solutions or pulp the dissolved metals may easily be recovered by filtration and precipitation by methods well known and in use.

It may be mentioned that the addition of a salt such, for example, as sodium sulphate, or ammonium sulphate may be added to the solutions to render the same

more conductive. In practice we find the addition of from 10 to 20 pounds of either of the above salts to a ton of solution gives satisfactory results.

Another way of carrying our invention into practice is to treat pulverized ore with a solution of a thiocyanate containing a halogen compound with ozone, or with a solution of thiocyanate containing a halogen compound in the presence of an electric current, as the following examples will make clear.

EXAMPLE A. 2000 pounds of pulverized ore are suspended in a solution of 4 lbs. of potassium thiocyanate, 2 lbs. of potassium iodide, 2 lbs. caustic soda or lime in 2,000 pounds of water, the whole mixture being in the proportion of two parts of said solution to one part of ore is contained in an agitating tank. This mixture of ore and solution is continuously subjected to a current of ozonized air for a period of twelve hours, the amount of ozone passed into solution being about 100 grams per ton of ore. The amount of ozone present in the ozonized air is determined by titration or otherwise. The ozone liberates the iodine from the potassium iodide which combines with the thiocyanate to form cyanogen iodide. This cyanogen iodide is an excellent solvent for gold contained in refractory ores containing gold tellurides, sulphide, arsenide, etc.

EXAMPLE B. 2000 pounds of the sulphide ore are suspended in a solution of 4 lbs. of potassium thiocyanate, 1 lb. of potassium iodide, 2 lbs. of caustic soda or

lime in 2000 lbs. of water, the whole mixture being in the proportion of two parts of said solution to one part of ore is contained in an agitating tank. This mixture of ore and solution is continuously agitated for a period of twelve hours in the presence of inert electrodes having a current density of about 50 amperes per square foot of electrode surface. About from 90 to 120 amperes are used per ton of ore.

The function of the electric current in example B is analogous to the function of ozone in example A - that is to say, both the electric current and ozone or ozonized air liberate the halogen from its compound.

In treating ores containing amongst other compounds silver sulphides or other sulphides it may not be necessary to add a halogen compound, such, for example, as potassium iodide, to the thiocyanate or cyanogen bearing solutions, as the nascent oxygen produced by the electric current regenerates the alkaline cyanide from the alkaline thiocyanate.

It is therefore obvious that after treating the silver ore or other sulphide bearing ores with the ordinary cyanide solutions, the cyanide undergoes destruction and is said to be consumed (technically called cyanide consumption). Means at present employed to prevent this cyanide consumption and increase the extraction, are the use of lead salts, such for example as lead acetate, litharge, etc., added to the cyanide solution, but these chemicals are expensive and irrecoverable and often inefficient when dealing with ores high in sulphides. The consumption of cyanide is largely due to the sulphide constituents of the compounds contained in the ores acting upon the cyanide solution in the

presence of atmospheric oxygen; this gives rise to the formation of sulpho-cyanides - the formation of sulpho-cyanide represents a direct loss in cyanide, because the cyanide is then in a non-available form and cannot be made to dissolve the precious metals by the ordinary means employed; but by our process a non-available cyanide solution is converted into an available cyanide solution ready and active, together with any unconsumed cyanide to dissolve the precious metals, which may be seen from reading the following descriptive example:

2,000 lbs. of the pulverized sulphide ore are suspended in a solution of 6 lbs. potassium cyanide (carrying 3 to 5 lbs. of protective alkalinity; the alkali used being preferably lime) in 2,000 lbs. of water; the whole mixture, being in proportion of two parts of the said solution to one part of ore, is contained in an agitation tank. This mixture of ore and solution is continuously subjected to agitation and aeration by a current of air, for a period of from about 16 to 72 hours (the time depending upon the cyanide consumption). About when the cyanide consumption has ceased, the whole mixture of ore and solution, is then subjected to electrolysis, in the said agitation tank, by introducing into the said mixture electrodes (preferably inert) carrying a current density of about 50 amperes per square foot of electrode surface. About from 50 to 100 amperes are used per ton of ore. The electrolysis is continued for about from 10 to 12 hours, the length of time depending upon the regeneration of the unavailable cyanide into alkaline cyanide; the latter may be determined hourly by titration, or otherwise.

From the above descriptive example it will be obvious that to start electrolysis of the ore pulp together with the ordinary cyanide solutions would result in immediate destruction of the cyanide as there would be insufficient or no sulpho-cyanide present in solution to protect the cyanide against the nascent oxygen produced at the anode, which would at once oxidize the cyanide to cyanate.

Having thus described our invention and examples of different ways of carrying it into effect, it will be understood that various modifications and changes in the described processes may be made and equivalent substances may be employed without departing from the spirit of our invention and without exceeding the scope of our claims.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:-

1. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a solution containing a cyanogen-bearing material and an amidine or amide compound and electrolyzing said solution or mixture.

2. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a solution containing a cyanamide, and electrolyzing the said solution or mixture.

3. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a solution containing a cyanamide in the presence of a halogen compound and electrolyzing said solution or mixture.

4. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a cyanogen-bearing solution containing a cyanamide and electrolyzing said solution or mixture.

5. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a cyanogen-bearing solution containing a soluble cyanamide and a halogen compound and electrolyz-

ing said solution or mixture.

6. The process of regenerating cyanogen-bearing solutions which consists in subjecting the said solutions to the action of a soluble amidine or amide compound (such, for example, as calcium cyanamide) and electrolyzing the said solutions.

7. The process of treating ore containing precious metals which consists in subjecting the ore to the action of a thiocyanate and a soluble halogen compound and oxydizing the mixture.

8. The process of treating ores containing precious metals which consists in subjecting the ore to the action of a soluble thiocyanate and a halogen compound and oxydizing said mixture by means of ozone.

9. The process of treating ore containing precious metals which consists in subjecting the ores to a solution containing thiocyanate and a halogen compound and electrolyzing the mixture.

10. The process of treating sulphide ore containing precious metals which consists in subjecting the said ore to the action of an alkaline cyanogen bearing solution in presence of oxygen, until a part or all of the cyanide has been transformed into a nonavailable sulpho-cyanide compound, or other nonavailable cyanide compounds, then subjecting the said solution or mixture to electrolysis.

4 Pkts

18

G.R.S. 26]

File No. 116/10

Serial No. 2

Diary No. of letter replied to 19-9-10

No. G 1806.

General and Revenue Secretariat

( )

, *the* 190

To

Messrs Rempfry & Son,
Solicitors & Patent Agents,
Calcutta.

Date of issue 21.9.'10

Signed by M. B. Ramaswami

Gentlemen,

With reference to your letter No. 3 dated 12th September 1910, forwarding an Application from the Clancy Metals Process Co.ⁿ, No. 170, Broadway, New York City, U. S. A., for leave to file a specification in respect of their invention for "Improvements in the treatment of Precious Metalliferous Ores", under the Mysore Inventions & Designs Regn., I am directed to request that the result of the ~~a~~ corresponding application stated to have been made to the Govt. of India in respect of the same invention, may be kindly

over.

SUBJECT.

and an authenticated copy of the order, passed by that Govt. be furnished for intimated to this Office.

I have &c,

19) Dft) for Secretary.

SA 17.9.10

List of enclosures,

Copied by

Examined by

GPB—10,000—28-5-08

G.R.S. 29A]

190 .

From

The Secy. to the Govt of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Superintendent
of Stamps in Mysore.

Dated

Despatched 21. 9. 1

Received

General No. 6707

No. 6[illegible]

ENCLOSURE No.

Has the honor to forward herewith a Deed of Assignment and a Power-of-Attorney received on the 15th Sept. 1910 from Messrs Remfry & Son, Solicitors and Patent Agents, Calcutta, in connection with the application of the Clancy Metals Process Co., No 170, Broadway, New York City, U. S. A., for leave to file a specification in respect of their invention for "Improvements in the treatment of Precious Metalliferous Ores*" and to request that the same may be duly stamped with Mysore stamps of the value of Re 1 each and

GPB—10,000—9-4-06.

21

returned to this office. A sum of Rs 2/- required therefor is also herewith forwarded.

By order,

19.9.00

for Secretary

G.R.S. 29A]

1906

From

The Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To
The State Geologist
in Mysore

Dated

Despatched 21.9.10

Received

General No. 61858
No. G.A.-III-1

ENCLOSURE No.

Has the honor to forward herewith a specification received on the 15th Sept. 1910 from Messrs Rempty & Son, Solicitors & Patent Agents, Calcutta, in respect of an invention for "Improvements in the treatment of ~~Mest~~ Precious Metalliferous Ores" by the Clancy Metals Process Co., No. 170, Broadway, New York City, U.S.A., and to request the submission of a report thereon under Sec 6(2) of the Mysore Inventions & Designs Regn. XI of 1894.

By Order,
19.9.10
for Secretary.

17.9.10

(1 PB—10,000—9-4-06.)

23

G.R.S. 29A]

190

From

The Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Offr. in charge of the
State Huzur Treasury.

Dated

Despatched 21.9.10

Received

General No. 11879

No. G.R. 176.10-5

Enclosure No.

Has the hona to forward herewith Rs 10/- (ten only), being the application fee received from messrs Rempry & Son, Solicitors and Patent Agents, Calcutta, for leave to file a specification of the Clancy Metals Process Company, No. 170, Broadway, New York City, U.S.A., in respect of their invention for "Improvements in the treatment of Precious Metalliferous Ores", and to request the favor of an acknowledgment.

By order,

Sd) 19-9-10
for Secretary.

17.9.10

OPB—10,000—9-4-06.

24

D1454

Rec. 82 2/9/10 CS 164 Fee 10/- S.

fm 116-10-6

Received From the Secretary to the Government of His Highness the Maharaja of Mysore General and Revenue Departments.
the sum of Rupees Ten only and credited this day

Vide his No. G1809/G. Dn. 116-10-5 dated 21st September 1910

H. H. THE MAHARAJA'S STATE HUZUR TREASURY,
BANGALORE, 22nd September 1910

Exd.

Hd. Accnt. ~~Herbert~~ Treasurer

~~By Order~~,

Treasury Officer, State Huzur Treasury.

Office of the Superintendent of Stamps
in mysore
25
Bangalore
dated 23rd September 1910.

No 56

Gm 116-10-7 D 1475

From J. Chokkanna Esqr B.A.
Superintendent of Stamps
in mysore

To C. S. Balasundram Dyer Esqr B.A.
Offg Secretary to the Government of
mysore
General and Revenue departments

Sir,

With reference to your Docket
No G. 1807 dated the 21st Instant,
Gm 116-10-3
I have the honor to return herewith
duly Stamped each with One Rupee
Stamp, the Deed of assignment
and Power of attorney, received
with the above, and to request
an acknowledgment.

I have the honor to be
Sir
Your most obedient Servant
J. Chokkanna
Superintendent of Stamps
in Mysore.

26 1R

ASSIGNMENT

WHEREAS I, JOHN COLLINS CLANCY, of No. 909 St. Marks Avenue, in the Borough of Brooklyn, City and State of New York, United States of America, by profession Chemist, am in possession of an invention for Improvements in the Treatment of Precious Metalliferous Ores; NOW THEREFORE KNOW YE THAT for and in consideration of the sum of five shillings to me in hand paid, the receipt of which is hereby acknowledged, I, the said JOHN COLLINS CLANCY, have assigned and transferred and by these presents do assign and transfer unto CLANCY METALS PROCESS COMPANY, a corporation organized under the Laws of the State of New York, located at No. 170 Broadway, in the City of New York, County and State of New York, United States of America, engaged in the business of Treating Ores, hereinafter called the said Company, their successors and assigns, the whole right, title and interest in and to Letters Patent to be obtained for the said invention from the Government of Mysore, and all and singular the liberties, powers, privileges and advantages whatsoever appertaining or belonging thereunto, the same to be held and enjoyed by the said Company, their successors or assigns for the full term for which such Letters Patent may be granted, or any prolongation or extension thereof as fully and entirely as the same could have been held and enjoyed by me had this assignment not been made.

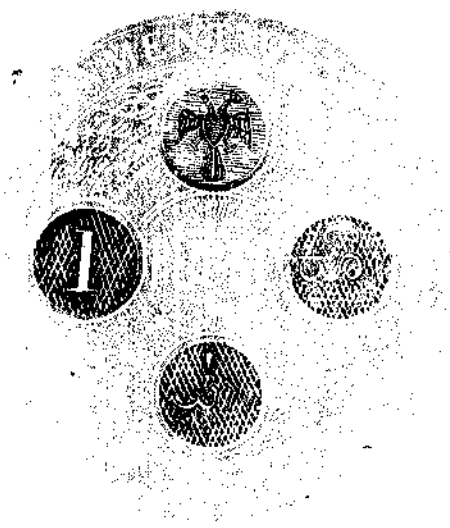
IN WITNESS whereof I, the said JOHN COLLINS CLANCY, have hereunto set my hand and seal this 8th day of June 1910.

SIGNED SEALED & DELIVERED)
in the presence of:)

John Collins Clancy

Henry B. Haight 170 Broadway
New York City N.S.A. Practical

MYSORE GOVERNMENT GENERAL STAMP



POWER OF ATTORNEY

27 I.R

IN THE MATTER of the Inventions and Designs Regulations, 1894, of the Government of Mysore and in the matter of CLANCY METALS PROCESS COMPANY, a corporation of the State of New York, of No. 170 Broadway, City of New York, County and State of New York, United States of America, engaged in the business of Treating Ores, Assignees of the Inventor.

We, the above named CLANCY METALS PROCESS COMPANY, do hereby retain, constitute and appoint RUPERT REMFRY Solicitor, and HAMILTON GREEVES REMFRY, Patent Agent, both of Hastings Street, Calcutta, British India, as our Agent and Attorney to apply for and obtain from the Government of Mysore, and keep in force, an Exclusive Privilege or Letters Patent for Improvements in the Treatment of Precious Metalliferous Ores, and we authorize them to sign our name to such papers and writings and do such acts regarding the same, including the appointment of a substitute or substitutes, as may be necessary or expedient.

Dated this 8th day of June 1910.

SIGNED SEALED AND DELIVERED)
at the City of New York,)
in the presence of:)

Clancy Metals Process Co
By Ray T. Tillotson
President

Henry B. Haigh 170 Broadway
New York City U.S.A. Broadway
Russell N. Hawk, 170 Broadway.
New York City, U.S.A. Clerk.

28

G.R.S. 29A]

190

29-9-10/3-20 pm

From

The Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Superintendent of
Stamps in Mysore -

Dated

Despatched 30th Oct 1910

Received

General No. [illegible]
No. Gen. 116-10-8

Enclosure No.

Has the honor to acknowledge the receipt of the Stamped Deed of Assignment and Power of Attorney forwarded with his letter No. 56 dated 22nd September 1910.

By order,

Dft) 28/9/10
for Secretary

27.9.10

30/9

G.A.

M.G.D. 13]

MYSORE GEOLOGICAL DEPARTMENT,

Dated Bangalore, 26th September *191* 0

No. 648

From

DR. W. F. SMEETH, M.A., D.Sc., &c.,

State Geologist in Mysore.

To

C.S. Balasundaram Iyer, Esquire, B.A.,

Offg. Secretary to the Government of His Highness

the Maharaja of Mysore, Gen.& Rev.Deps.

SIR,

I have the honour to return herewith the specification forwarded with your docket No.G.1808/G.M.116-10-4, dated 21st September 1910, and to state that the process described therein, Viz. the addition of an amide to a cyonogen bearing compound which is not a solvent of the precious metals, combined with the application of an electric current y is, so far as I am aware, new and the claims put forward appear to me to be legitimate. Under these circumstances I am of opinion that the leave applied for should be granted.

I have the honour to be,

Sir,

Your most obedient servant,

State Geologist in Mysore.

C.N.

GBP--260—14-5-10

30

Fm 116-10

To

THE SECRETARY TO THE GOVERNMENT OF ~~INDIA~~ MYSORE,
Genl. & Rev. Depts.
~~DEPARTMENT OF REVENUE AND AGRICULTURE (PATENTS).~~
BANGALORE. Mysore.

From

REMFRY & SON,

Solicitors and Patent Agents,

CALCUTTA.

Dated Calcutta, 9th Decr 10.

Sir,

re CLANCY METALS PROCESS CO.

In compliance with Official letter dated 21st Sept we have the honour to forward herewith a Certified Copy of the Order dated 26th Octr last granting leave to file Specifications on Register No. 469 of 1910, the corresponding Indian Application.

We have the honour to be,

Sir,

Your very obedient servants,

REMFRY & SON.

per

No. .

GOVERNMENT OF INDIA.

Department of Commerce and Industry.

Register No. 469 of ~~190~~ 1910.

Calcutta, the 26th October 1910.

WHEREAS an application, ~~dated the~~ numbered as above and received on the 5th September 1910, has been submitted under section 5 of the Inventions and Designs Act, 1888, by Delancy Metals Process Company, a corporation organized under the laws of the state of New York, of No. 170 Broadway, in the city of New York, county and state of New York, United States of America, engaged in the business of Treating Ores,
(hereinafter referred to as "the applicant") for leave to file a specificaton of an invention for improvements in the treatment of precious metalliferous ores;

And whereas the applicant has duly complied with all the requirements of section 5 of the said Act;

The Governor-General in Council is pleased, under section 6 of the said Act, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Act.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By order of the Governor-General in Council,

Sdf- H. G. Graves.

Assistant Secretary to the Government of India.

(True Copy.)

Superintendent,
Patent Office.

No.

Dated the _____ *190* .

Certified that the fees prescribed in the fourth schedule to the Inventions and Designs Act, 1888, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of section 8* of the said Act on this the _____ day of _____ 190 .

Assistant Secretary to the Government of India.

Dept. of C. & I. Patents Regr. No. 24.

* See reverse.

Section 8 of the Inventions and Designs Act, 1888.

8. (*1*) If within six months from the date of an order under section 6, sub-section (*1*), or within such further time, not exceeding three months, as the Governor-General in Council, in his discretion, may, on cause shown to his satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in British India, and of authorising others so to do, for a term of fourteen years from the date of the filing of the specification.

(*2*) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in sub-section (*1*), cease if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(*3*) If, nevertheless, in any case, by accident, mistake or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Governor-General in Council for an enlargement of the time for making the payment.

(*4*) Thereupon the Governor-General in Council may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

S. G. P. I.—No.125 C. I.—9-10-09.

115 32

No. G. 4276 Dy 5th Jan.y 1911-

G.M. 116-10-11

GOVERNMENT OF MYSORE

General Department.

Register No. 1 **of 1910 - 11**

Bangalore, the 25th Jan.y 1911.

WHEREAS an application, dated the 8th June 1910 and received on the 15th October 1910, has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by The Clancy Metals Process Company, a corporation organised under the laws of the State of New York. of no 110 Broadway in the City of New York, County & State of New York, U.S.A. engaged in the business of treating ores.
(hereinafter referred to as "the applicant") for leave to file a specification of an invention for "Improvements in the treatment of precious metalliferous ores"

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly

By Order of the Government of Mysore,

17/11

Gen. and Rev.

18 VS 41

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the 13th Thirteenth day of February 1911.

Draft

17.2.11

Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

(Section 8 of the Inventions and Designs Regulation, 1894.)

8. (1) If within six months from the date of an order under Section 6, Sub-section (1), or within such further time, not exceeding three months, as the Government of Mysore, in its discretion, may, on cause shown to its satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

GPB—500—7-4-09.

1115
(To be spiked) 33

G.R.S. 26]

File No. 116-10
Serial No. 12

Diary No. of letter replied to

No. G 4277 Enc 1

General and Revenue Secretariat
( )
, *the* 19 .

To

Messrs. Remfry & Sun.
Solicitors & Patent Agents
Hastings Street. Calcutta.

Date of issue 25th Jan 1911

Signed by [illegible]

Gentlemen,

With reference to the correspondence ending with your letter of the 9th Dec. last in the matter of the application of the Clancy Metals Process Co. of New York for leave to file a specification of an invention for "Improvements in the treatment of precious metalliferous

over.

SUBJECT.

34

I am directed to forward herewith for communication to the applicant's order no G.4276 / G.M.116-10-11 of 25th Jan'y 1911, granting them the leave required.

I have &c.

19/1/11

for Colly Secy

V.S. 41

List of enclosures,

Copied by M Krishna murthy. 24-1-11

Examined by

GPB—20,000—12-8-10

Rec. 60/- 13/2/11 60/-.

Remfry & Son.

Specification filing fees of T.Cockerill 17/09-10, and Clancy Metals Process 1/10-11. See letters of date.

REMFRY & SON.

per

D 3498
R.

Pm 116-10-13

To

THE SECRETARY TO THE GOVERNMENT OF ~~INDIA,~~ **MYSORE.**
Genl & Rev. Departments,
~~DEPARTMENT OF REVENUE AND AGRICULTURE (PATENTS).~~
Bangalore, Mysore.

From

REMFRY & SON,

Solicitors and Patent Agents,

CALCUTTA.

Dated Calcutta, **10th Feby 11.**

Sir,

Pursuant to the Order dated 25th ult, Register No. 1 of 1910-11, we have the honour to forward four copies of the Specification of CLANCY METALS PROCESS COMPANY, of 170 Broadway, New York, U.S.A., in respect of their invention for "Improvements in the treatment of precious metalliferous ores".

The Specification filing fee of Rs30/- is sent by P.O.O. today.

The above mentioned Order is enclosed and we solicit the favour of your filling in the Certificate at foot thereof and having same duly signed.

We beg to name our Office in Calcutta as the address under the Act.

We have the honour to be,

Sir,

Your very obedient servants,

REMFRY & SON.

per

G.R.S. 26]

137

Gen File No. 116-10

Serial No. 14

Diary No. of letter replied to ...

No. G 4938 with Rs Thirty only

General and Revenue Secretariat

( )

, *the* 19 .

To

Asst Comptr

The ~~Officer~~ in Charge

of the State Hinges Dy

Date of issue 24-2-11

Signed by M R Ramaswamayya

Has the honr to forward

herewith Rs 30 being the

sum received from Messrs Renforth

Sir an ofc of fees for filing a

specification of an invention by the

Clancy metals Process Co., New

York for "Improvements in the

treatment of precious metalliferous

ores".

The fawn of an acht is requested

Dep.

17.2.11

Dy Chf Sy

SUBJECT.

typed

CM

11/11

No. G 4939
Gen 116-10-15

MYSORE GOVT. GEN. & REV. SECRETARIAT,
Dated Bangalore, 24th Feb 1911.

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General and Revenue Departments, and on payment of a fee of one Rupee.

By Clancy Metals Process Company, a Corporation organised under the laws of the State of New York of No 170, Broadway in the City of New York County & State of New York, U.S.A.

—

"Improvements in the treatment of precious metalliferous ores".

"

By Order,

17.2.11
Secretary.

To

The Compiler, *Mysore Gazette*, for publication

Typed
21/2/11

No. G+940 Rev 2
Gen. 16-10-16

MYSORE GOVT. GEN. & REV. SECR.....,
Dated Bangalore, 24th Feb 1911.

The Secretary to the Government of H. H. the Maharaja of Mysore,
General and Revenue Departments.

To

Messrs Remfry & Sun.
Solicitors Patent Agents
Calcutta

~~Sir,~~ Gentlemen,

With reference to your letter dated 10th Feb. 1911 I am directed to forward copy of a Notification No. G+939/Gen 16-10-15 dated 24th Feb. 1911 issued by this Government in regard to the invention filed by you under Regulation XI of 1894 (The Inventions and Designs Regulations.)

The order granting permission to file specification is herewith returned, with the certificate at foot, duly filled in and signed.

I have the honor to be,
Sir,
Your most obedient servant,

17-2-11
Secretary.

Typed 28/2/11

G.S. 26]

Diary No. of letter replied to

General and Revenue Secretariat

( )

, *the* 19 .

Date of issue 24. 2. 11

Signed by Mr B Ramaswamayya.

SUBJECT.

4015

40

Gen. File No. 116-10

Serial No. 17

No. G 4941-3 Encl each

To

The Supdt Govt museum

The State Geologist

The Chief Engineer

Itis the honr to forward herewith for record a copy of the specification of an invention for "Improvements in the treatment of precious metal-ferrous ores" by the Chauncy Metals Process Company, of 170 Broadway, New York U.S.A. for request the favour of an early.

Encl.

17.2.11

for Secy to Govt

Secy

14/2

Speed
21/2/11

41

No. 3[redacted]

Rs. [redacted]

Received from the officiating Secretary to the Government of His Highness the Maharaja of Mysore, General and Revenue Department, the sum of Rupees [redacted] and credited the same as desired. Vide, this No. G 4938/Gen. 116-10-18, dated 24 February 1911.

H. H. The Maharaja's State Huzur Treasury,
Bangalore, the 25 February 1911.

Exd.

Hd. Acctt.

~~By Order,~~

Assistant Comptroller in charge

~~Treasury Officer~~, State Huzur Treasury.

42

No. 219

OFFICE OF THE ECONOMIC BOTANIST,
SUPERINTENDENT, MYSORE GOVERNMENT MUSEUM,

Bangalore, dated 26th February 1917.
18th March 1917

FROM

G. H. KRUMBIEGEL, ESQ., F.R.H.S.,
Economic Botanist,
Superintendent, Mysore Govt. Museum,
Bangalore.

TO

C. S. Bala Sundaram Iyer, Esqr. B.A.,
O.S.Sq. Secretary to the Government of H.H.
the Maharaja of Mysore, General
& Revenue Departments, Bangalore.

Sir,

I have the honor to acknowledge the receipt of a Copy of the "Specification of an invention for "Improvements in the treatment of precious — metalliferous Ores" by the Clancy Metals Process Company, of 170 Broadway, New York, U.S.A., kindly forwarded with your No. G.1441-3 Gm.116-10-17 of the 24th inst.

I have the honor to be,

Sir,

Your most obedient Servant,

G. H. Krumbiegel

Economic Botanist

Supt., Mysore Govt. Museum.

D 3780
9
Rs 116-10-19
~~1910-11.~~

From

G. H. KRUMBIEGEL, Esq., F.R.H.S.,
Economic Botanist,
Supt., Mysore Govt. Museum,
Bangalore.

To C.S. Balasundaram Iyer Esqr B.A.,
Offg Secretary to the Government
of H.H. the Maharaja of Mysore,
General & Revenue Departments,
Bangalore.

Dated 24th February 1911.

Despatched/5th March 1911.

Received

General No. 219
No.

Enclosure No. 1

Acknowledging the receipt of a copy of the specification of an invention for "Improvements in the treatment of precious metalliferous ores" by the Cluney Metals Process Company, New York. U.S.A.

GPB—500—15-7-10

D 3904/9 43

M.G.D. 13] MYSORE GEOLOGICAL DEPARTMENT.

Dated Bangalore, 8th March 1911.

No. 1773—

From

E. W. WETHERELL, Esq., A.R.C.S., F.R.P.S.L., F.G.S.,
Offg. State Geologist in Mysore.

To

C.S. Balasundaram Iyer, Esquire, B.A.,
Offg. Secretary to the Government of His Highness
the Maharaja of Mysore,
General and Revenue Departments.

Sir,

I have the honour to acknwledge the receipt of a copy of the Specification in respect of an invention for " Improvements in the treatment of precious metalliferous ores " filed by the Clancy Metals Process Company of 170 Broadway, New York, forwarded with your docket No. G. 4941-3 / G.R. 116-10-17 dated 24th February 1911.

I have the honour to be,
Sir,
Your most obedient servant,

Offg. State Geologist in Mysore.

GPB—480—4-1-11

44

No. 2016 .

MYSORE P. W. DEPARTMENT,

CENTRAL OFFICE.

Bangalore..13th....March.....*19* 11 .

From

M. VISVESVARAYA, ESQ., M.I.C.E.,

Chief Engineer of Mysore,

Bangalore.

To

C.S.Balasundaram Iyer,Esq.,B.A.,

Offg: Secretary to the Government

of His Highness the Maharaja of Mysore,

General & Revenue Departments.

SIR,

I have the honour to acknowledge the receipt of a copy of the Specification of an invention for "Improvements in the treatment of precious metalliferous ores" by the Clancy Metals Process Company, of 170 Broadway, New York, U. S. A., received with your docket No.G.4941-3/G.M.116-10-17 dated the 24th February 1911.

I have the honour to be,

Sir,

Your most obedient servant,

Deputy Chief Engineer,

Mysore P. W. D.

GPB—500—12-12-10

V/163 Vol

D 3962
5

19

MYSORE P. W. DEPARTMENT.

No. 2016

From

THE CHIEF ENGINEER OF MYSORE,

Bangalore.

To

The Officiating Secretary
Genl & Rev Departments.

Dated Bangalore, 3. March 1911.

Despatched

Enclosure No.

SUBJECT.

Acknowledging receipt of the
copy of the specification of
the invention of 'Improve-
ments in the treatment of
precious metalliferous Ores'

the party concerned.

13. From Messrs. Remfry and Son Letter dt 10 2/11.
Forwards four copies of the Specification together with the filing fee of Rs. 30/-

14. To the Asst. Comptr. State Huzur Treasury.
No. 4.4938 dt 24 2/11
Forwards Rs. 30/- received with the above.

15. To the Compiler, Mysore Gazette. C. 4935 dt 24 2/11
Notifies the filing of the Specification of the invention.

16. To Messrs. Remfry and Son, Calcutta
Sly. 4540 dt 24 2/11. Forwards Copy of the above and returns Original dt 8.11 with the Certificate at foot duly filled in.

17. To the Supdt Govt Museum, State Geologist & Chief Engineer. No. 4541-3 dt 24 2/11.
Forwards for record a Copy of the Specification

18 From the Asst Comptroller, State Huzur Treasury
No. 344 dt 25.2.11. Acknowledges receipt of Rs. 30/- sent with dt 14.

19. From the Supdt Govt Museum No. 2153 dt 1 3/11
20 " " State Geologist. 1753 dt 8 3/11
21 " " Chief Engineer. 2016 dt 13 3/11
} Acknowledge receipt of the Specification sent with 8 17